

REMARKS


Claims 1-6 remain pending. Claims 7-10 are added. Claims 1 and 6 are amended, as recited hereinabove. It is believed that the amended claims as well as claims 2 - 5 and added claims 7-10 are patentable. Consideration and allowance of the same is hereby respectfully requested.

Another version of the amended claims is being attached hereto under the title **"VERSION WITH MARKINGS TO SHOW CHANGES MADE"** to clearly show the changes made to the claims.

Accordingly, consideration and allowance of claims 1-10 is hereby respectfully requested. Applicants submit that the subject application is now in condition for allowance and an early notice thereof is requested. Should any further amendment be required prior to passing the application to issue, the Examiner is respectfully invited to contact the undersigned by telephone at the number set out below.

Respectfully submitted,

Dated: 5/19/03
LAW OFFICES OF IMAM
111 North Market Street, Suite 1010
San Jose, CA 95113
Tel: 408-271-8752



Maryam Imam
Reg. No. 38,190

Fax: 408-271-8886

I hereby certify that this correspondence with all attachments is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Mail Stop No Fee Amendment, Commissioner for Patents and Trademarks, Washington, D.C. 20231 on May 19, 2003 by Erika Villafana.



Erika Villafana

VERSION WITH MARKINGS TO SHOW CHANGES MADE**In the Specification:**

The paragraph starting at page 1, line 6 and ending at page 1, line 9, has been replaced with the following paragraph:

--This application is a continuation of my previously-filed, copending, U.S. Patent No. 6,567,307, issued on May 20, 2003 to Petro Estakhri and entitled "Block Management For Mass Storage", which is a continuation-in-part of my U.S. Patent Application No. 09/620,544, filed on July 21, 2000 and entitled "Moving Sectors Within a Block of Information In a Flash Memory Mass Storage Architecture", the disclosure of which is incorporated herein by reference as though set forth in full.—

In the Claims:

Claims 1 and 6 have been amended as follows:

1. (Once Amended) A nonvolatile memory system comprising:

nonvolatile memory for storing sector information, said nonvolatile memory being organized into blocks, each block including a plurality of sectors, each sector identified by a logical block address and for storing sector information; and

a controller coupled to said nonvolatile memory responsive to a host for writing sector information to said nonvolatile memory and responsive to the host for updating said sector information,

wherein upon updating sector information, the controller writes to the next free or available sector(s) of a block such that upon multiple re-writes or updating of sector information, [a plurality of] one or more blocks are substantially filled with sector information and upon such time, the controller rearranges the updated sector information

in sequential order based on their respective logical block addresses thereby increasing system performance [and improving manufacturing costs of the controller].

6.(Once Amended) A method of storing sector information in nonvolatile memory organized into blocks, each block including a plurality of sectors, each sector identified by a logical block address comprising:

receiving sector information for storage into a block of the nonvolatile memory;
 storing the received sector information into one [of a plurality of] or more blocks;
 receiving updated sector information for storage into a block of the nonvolatile memory;
 storing the received updated sector information into the next free or available sector(s) of a block such that upon multiple re-writes or updating of sector information, [a plurality of] one or more blocks are substantially filled with sector information; and

if needed, [re-arranging] moving the updated sector information in sequential order based on their respective logical block addresses.

Claims 7-9 have been added as follows:

1 7.(Once Amended) A method of storing sector information in nonvolatile memory organized
 2 into blocks, each block including a plurality of sectors, each sector identified by a logical
 3 block address comprising:
 4 receiving sector information for storage into a block of the nonvolatile memory;
 5 storing the received sector information into one or more blocks;
 6 receiving updated sector information for storage into a block of the nonvolatile memory;
 7 storing the received updated sector information into the next free or available sector(s) of
 8 a block such that upon multiple re-writes or updating of sector information, one or more
 9 blocks are substantially filled with sector information; and

10 avoiding moving the updated sector information if the updated sector information belong
 11 to sectors of a predetermined order and the logical block addresses of the sectors of the
 12 updated sector information correspond to valid physical block addresses used to identify
 13 sectors within the nonvolatile memory.

1 8. A method of storing sector information as recited in claim 7 wherein the avoiding step
 2 further includes updating the correspondence between logic block addresses and physical
 3 block addresses based upon the updated sector information.

1 9. A method of storing sector information as recited in claim 8 further including the step of
 2 erasing the block that includes sector information which is superceded by the updated sector
 3 information.

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10.(Once Amended) A method of storing sector information in nonvolatile memory organized into blocks, each block including a plurality of sectors, each sector identified by a logical block address comprising:

receiving sector information for storage into a block of the nonvolatile memory;

storing the received sector information into one or more blocks;

receiving updated sector information for storage into a block of the nonvolatile memory;

storing the received updated sector information into the next free or available sector(s) of a block such that upon multiple re-writes or updating of sector information, one or more blocks are substantially filled with sector information; and

if needed, moving the updated sector information into sectors identified within the nonvolatile memory by virtual physical block addresses corresponding to respective virtual logical block addresses and avoiding moving the updated sector information if the updated sector information belong to sectors of a predetermined order and the virtual logical block addresses associated with sectors of the updated sector information correspond to valid virtual physical block addresses.